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"On a now extinct species of Cyprinidæ," by Edw. D. Cope.

"On the Inheritance of Modifications due to the Disturbance of the Early Stage of Development in the Japanese Domesticated Races of Gold Carp," by John A. Ryder.

"The Vascular Respiratory Mechanism of the Vertical Fins in the Viviparous Embiotocidæ," by John A. Ryder.

JANUARY 17.

The President, GENERAL ISAAC J. WISTAR, in the chair.

Fifty-three persons present.

Papers under the following titles were presented for publication :—

"Catalogue of the Crustaceans in the Museum of the Academy of Natural Sciences of Philadelphia," by Benjamin Sharp, M. D.

"Description of a New Species of Neotoma," by Witmer Stone.

Mr. CHAS. P. PEROT was elected Treasurer to fill the vacancy caused by the death of Mr. Isaac C. Martindale.

JANUARY 24.

The President, GENERAL ISAAC J. WISTAR, in the chair.

Fifty-nine persons present.

A paper entitled "New Species of North American Fungi from various localities," by J. B. Ellis and B. M. Everhart, was presented for publication.

The deaths of Dr. J. S. Newberry and Sir Richard Owen, correspondents, were announced.

The Forms of Edentulous Jaws in the Human Subject.—Dr. HARRISON ALLEN demonstrated the peculiarities of the edentulous upper and lower jaws of the human subject. He held that the statement made that the jaws exhibit the result of uniform absorption of the alveolar processes was not true. The bone tissue which held the teeth in place being a complemental structure is indeed rapidly absorbed after the teeth are lost. But when the alveolar processes have disappeared, a secondary process of adaptive hyperostosis takes place. These statements relate in the main to the upper jaw, but the conclusions can be applied also to the lower jaw.

This adaptive process occurs in three regions, namely, that for the incisor teeth, that for the canine tooth and the first bicuspid tooth, and that for the second bicuspid tooth and the molar teeth. These

display the uniformity seen in the four exhibited. In the future, the greatest variations will certainly be exhibited. In some a prominence will be present, which in life amounted to almost a monstrosity, while in others there will be found a complete atrophy or absorption of the entire ridge in both the superior and inferior maxilla. The symmetry of the ridge will in a measure be due to the uniformity of pressure from an artificial denture, and an absence of the forces alluded to by Dr. Allen, which doubtless had had in some cases an influence in the secondary development of bony structure, while those parts were forced to perform the function of the teeth which had been prematurely lost, though some of the prominences to which attention had been drawn, were, in the estimation of Dr. Pierce, due to the difference in the time of the loss of the teeth. Why some maxillaries should show such complete atrophy, while others had secondary development, Dr. Pierce could not explain, but he believed it was associated with temperamental and nutritional conditions. The development certainly indicated a healthy recuperative power on the part of the individual.

With reference to the protrusion of the lower jaw and chin, and the change in adaptation of condyle to glenoid cavity, which Dr. Allen had so aptly illustrated, Dr. Pierce thought they could be explained upon the principle of use and disuse, with adaptation of structures. In infancy, the angle resulting from the relation of the ramus to the body of the bone was much greater than a right angle, indeed the ramus was but little above the same horizontal plane occupied by the body of the bone, and the jaw was capable only of vertical and antero-posterior motion, such as is essential to sucking or nursing. As the three true or permanent molars are developed, the ramus assumes its vertical position, forming almost a right angle with the body of the bone, and at the same time making lateral or horizontal movement possible while establishing the concomitant relation between the condyles and glenoid cavities. As these permanent molars later in life are lost, the force upon the jaw in occlusion is confined to the anterior part or incisive locality, which would necessarily tend to increase the angle and protrude the chin. This occurs sometimes quite early in life and while all the anterior teeth are in position. At the same time that the vertical motion is exerting this influence the necessity for lateral motion has ceased, by the loss of the grinders; hence the change in the relative position of the condyle, which was so well shown by the previous speaker, and which has been necessitated by a return to the vertical and anteroposterior motion common to infancy, with the loss of the horizontal or lateral motion of maturity.

In consequence of his election to the office of Treasurer, Mr. Chas. P. Perot resigned from the Finance Committee. DR. GEO. H. HORN was elected to fill the vacancy.